



UNIVERSIDADE FEDERAL DA PARAÍBA
CENTRO DE CIÊNCIAS HUMANAS, LETRAS E ARTES
DEPARTAMENTO DE LETRAS ESTRANGEIRAS MODERNAS
LICENCIATURA PLENA EM LETRAS INGLÊS

MARCELA BRINGEL CRUZ

**CRITICAL PERIOD HYPOTHESIS IN SECOND LANGUAGE
ACQUISITION: A LITERATURE REVIEW**

JOÃO PESSOA - PB

2019

MARCELA BRINGEL CRUZ

**CRITICAL PERIOD HYPOTHESIS IN SECOND LANGUAGE ACQUISITION: A
LITERATURE REVIEW**

Trabalho de Conclusão de Curso apresentado à Banca Examinadora do Departamento de Letras Estrangeiras Modernas da Universidade Federal da Paraíba, como requisito parcial necessário para obtenção do grau de Licenciada em Letras - Língua Inglesa.

Orientadora: Profa. Dra. Elaine Espíndola Baldissera

JOÃO PESSOA - PB

2019

Catálogo na publicação
Seção de Catalogação e Classificação

C957c Cruz, Marcela Bringel.

Critical Period Hypothesis in second language acquisition: a literature review / Marcela Bringel Cruz. - João Pessoa, 2019.

29 f. : il.

Orientação: Elaine Espíndola Baldissera.

Monografia (Graduação) - UFPB/CCHLA.

1. Second Language Acquisition. 2. Critical Period Hypothesis. 3. Language Acquisition. I. Baldissera, Elaine Espíndola. II. Título.

UFPB/CCHLA

MARCELA BRINGEL CRUZ

**CRITICAL PERIOD HYPOTHESIS IN SECOND LANGUAGE ACQUISITION: A
LITERATURE REVIEW**

Trabalho de Conclusão de Curso apresentado
à Banca Examinadora do Departamento de
Letras Estrangeiras Modernas da
Universidade Federal da Paraíba, como
requisito parcial necessário para obtenção do
grau de Licenciada em Letras - Língua
Inglês.

Aprovado em: ____/____/____

BANCA EXAMINADORA

Prof. Dra. Elaine Espíndola Baldissera
Orientadora (UFPB)

Prof. Dra. Bárbara Cabral Ferreira
Examinadora (UFPB)

Prof. Dr. Rubens Marques de Lucena
Examinador (UFPB)

Prof. Dra. Francieli Freudenberger Martiny
Suplente (UFPB)

JOÃO PESSOA – PB

2019

*À todos que acompanharam, ajudaram
e apoiaram essa trajetória do início ao fim,
ou em apenas parte dela...*

RESUMO

O presente trabalho tem por objetivo expor uma visão geral do que as principais literaturas e pesquisas recentes afirmam a respeito da correlação entre a Hipótese do Período Crítico e aquisição de segunda língua. Para atingir tal objetivo, uma pesquisa bibliográfica foi realizada principalmente através de artigos e livros publicados anteriormente sobre o assunto. Como objetivos específicos, foram inclusos a apresentação de argumentos a favor e contra a existência de um período crítico para aquisição de segunda língua, assim como apresentar os efeitos da idade neste processo, de acordo com a literatura e outras pesquisas recentes. Como muitos autores ainda divergem sobre a existência de um período crítico para aquisição de segunda língua, ambos os lados foram mostrados nessa monografia. No entanto, ao longo da pesquisa, foi percebido que a maioria acredita que seres humanos realmente passam por um período crítico quando se trata de aquisição de segunda língua, especialmente quando se trata de aspectos fonológicos.

Palavras-chave: Aquisição de Segunda Língua. Hipótese do Período Crítico. Aquisição de Língua.

ABSTRACT

This present paper aims to expose an overview of what the main literature and recent researches assert about the correlation between the Critical Period Hypothesis and Second Language Acquisition. In order to achieve this goal, a bibliographic research was carried out mainly through previously published articles and books about the theme. Introducing arguments held to support or deny the existence of a critical period when it comes to second language acquisition, as well as presenting the effects of age in such process according to the main literature and to recent researches, were traced as specific objectives to guide this research. Since many authors still argue about the existence of a critical period for second language acquisition, both sides were shown in this monograph. However, throughout the research it was noticed that the majority believes that human beings actually undergo a critical period when it concerns to second language acquisition, especially when it comes to phonological aspects.

Keywords: Second Language Acquisition. Critical Period Hypothesis. Language Acquisition.

SUMÁRIO

1 INTRODUCTION	8
2 METHODOLOGY	10
3 LITERATURE REVIEW	12
3.1 Language Acquisition	12
<i>3.1.1 Behaviourism</i>	<i>12</i>
<i>3.1.2 Innatism</i>	<i>13</i>
<i>3.1.3 Interactionism</i>	<i>14</i>
3.2 Critical Period Hypothesis	15
3.3 Second Language Acquisition	17
3.4 Critical Period Hypothesis in SLA	21
4 FINAL REMARKS	25
REFERENCES	27

1 INTRODUCTION

Language acquisition has always fascinated many researchers, whether it is the first or second language, and this is not something new. Since the most primitive and ancient evidence of intellectual activity, men have tried to explain the power of speech through myths, magic and religion, and other sources for mystical or rational answers.

Parodi (2010) asserts that Language Acquisition is the term commonly used to describe the process that children go through in order to become speakers of their native language (First Language Acquisition). Still, she adds that Second Language Acquisition happens when children or adults become speakers of a second language. The author points out that it is striking how everyone succeeds in becoming a competent speaker of their first language, however, this level of competence is usually not achieved by teens and adults when acquiring a second language.

For that reason, many other investigators argue that these differences in achievement of first and second language acquisition indicate that after puberty the specific ability to acquire a language tends to decrease. This statement could be supported by the Critical Period Hypothesis. Whether there is or not a critical period for first and second language acquisition is still a subject of much debate among researchers. Having that in mind, the main focus pursued in this paper is to revise what has been stated about second language acquisition as regards the Critical Period Hypothesis over the past decade, without forgetting the main authors and researchers who kick started the discussion around this topic. For this purpose, many articles from the last ten years were used as a source of research, as well as their main bibliography.

At first, this research will revise what the literature offers in terms of First Language Acquisition and the main theories and approaches that relate to it, and how they developed over the years. Then, some data regarding the Critical Period Hypothesis will be exposed, in order to achieve the main goal of this paper, that would be to revise what have been said about to what extent Second Language Acquisition and the Critical Period Hypothesis correlate.

In order to achieve the main goal, specific objectives were established, as they help to guide the present research. Such objectives are listed below:

- (i) Revise what the literature claims about age effects on second language acquisition;
- (ii) Introduce some of the arguments held by the authors in order to sustain the Critical Period Hypothesis for second language acquisition;

(iii) Introduce some arguments held by authors who deny the existence of this hypothesis.

The objectives presented above, may be translated in the following research questions.

(i) What does the literature say about the effects of age on second language acquisition?

(ii) Which arguments do the authors hold in order to sustain the hypothesis that an adult would have more difficulties to acquire and learn a second language when compared to a child?

(iii) And what are the arguments held against such hypothesis?

After this section of an introductory nature, the present monograph is divided into 3 more chapters. Chapter 2 presents the Methodology discussing how the data was selected, collected and analyzed. Chapter 3 is the development of this research, the Review of Literature which is divided into 4 subsections. At last, in chapter 4 the Final Remarks are presented.

2 METHODOLOGY

A Bibliographic Research may be defined as any research that requires information to be gathered from previously published materials. These materials may include more traditional resources such as books, magazines, newspapers and reports, as well as online information sources. In order to provide reliable data for this literature review, this was the method chosen to guide the writing of this present paper.

With the advances in contemporary practices of documentation made possible by electronic technologies, the Academia.edu [www.academia.edu] has become a reliable source of information for research carried out in any area of knowledge production and dissemination in the academic scenario. For this specific research, the portal was accessed during the months of June and July for retrieval of information on thesis, articles and dissertations. The search words used, perceived by the author as representative of this chosen topic are listed: “Second Language Acquisition”, “Language Acquisition”, “Language Acquisition Theories”, “Critical Period Hypothesis”, “Second Language Acquisition and Critical Period Hypothesis”, and “Critical Period for Second Language Acquisition”.

Some articles researched and found on Academia.edu were used as a source of primary reading. From this first contact, the main authors and literature were taken, and a deeper research was carried on this main approaches and theories that served as the basis and information for the most recent studies.

After this first reading, data was collected from the most commonly mentioned authors and most well-known literature regarding language acquisition, in order to construct the first section of this paper. Skinner (1957), Lenneberg (1967), Chomsky (1976), and Krashen (1982) were the most important and primordial names to introduce this research, since they were the pioneers in their respective areas of study.

As the next step, many articles and studies from the past ten years were reviewed, in order to collect information of what has been claimed and reaffirmed on the topic recently. Still, many other articles from University researchers were taken from internationally known encyclopedias, as *The Routledge Encyclopedia* series and *Concise Encyclopedia of* series. Books were also used as a source of research, but many of them had already been mentioned in the articles read before.

After reading and collecting data, some of the main information regarding the existence of a Critical Period Hypothesis for second language acquisition were held together and discussed into this monograph. Since it is a very controversial topic, authors and researches held for and against such hypothesis were presented here.

Further and deeper information were also collected, but not mentioned here, since they go way beyond this topic and involve other areas, such as biology, psychology, anatomy and others. However, they still make part of it and arouse curiosity for future research.

3 LITERATURE REVIEW

3.1 Language Acquisition

Humans have an exclusive skill, which consists on the capacity of producing and comprehending messages in order to establish communication, and that is called Language. The ability that children have of acquiring a language in their first years of life has always fascinated many researchers, especially psychologists, neurobiologists and also linguists.

Scientists have always researched and tried to understand how young children acquire language so fast and naturally. How do they understand? And how does this process take place? Bearing these and many other questions in mind, many studies and approaches have been settled in order to try to explain children first language acquisition.

3.1.1 Behaviourism

Proposed by John Watson in 1913, in the United States, the theorists from this approach have always believed that children use imitation as the primary and main process to acquire and develop language. Every behaviour would be a response to certain stimulus, that is why this model is also called S-R (stimulus - response). If the response is positively or negatively reinforced, in other words, if it brings a result, the child tends to associate and condition it to the stimuli, whether it is positive or negative.

One of the greatest names for this approach was Burrhus Frederic Skinner, who affirmed in his book *Verbal Behaviour* (1957) that the acquisition of the first language (mother tongue) is related to habit formation. Children imitate the sound patterns reproduced around them, which bring a response and consequently a reinforcement. Such reinforcement might be positive or negative. If the stimulus brings good and rewarding consequences in return, the child's behaviour is maintained and frequently repeated. Otherwise, if it brings punishment or any negative response or reinforcement, the behaviour is eventually extinguished. Learning would be an association of imitation, practice, reinforcement and consequent habit formation.

On the one hand, a positive reinforcement could be praisal or just the effective and successful communication, with rewarding consequences. That process would encourage them to continue the imitation and practice. For example, a child could be thirsty, and that would be the

stimulus. When s/he reproduces a sound asking for water, as a response to this stimulus, a positive reinforcement could happen, that would be someone giving the child what s/he had asked for. Consequently, the infant might associate and repeat this behaviour whenever s/he is thirsty.

On the other hand, if there is a negative reinforcement, such as a non expected or non desired result, the behaviour eventually disappears, and the child tends not to repeat it when associating to that same response.

In short, behaviourists believe in a trial-and-error process, in which acceptable utterances are positively reinforced by comprehension and approval, and unacceptable utterances are inhibited by a negative reinforcement, as the lack of reward.

Skinner's theories attracted many critics, since it could not explain how humans produce and understand utterances that have not been heard before, or that were not reproduced in the appropriate context. Noam Chomsky was the pioneer to put forward criticisms against Skinner's approach, once he believes that behaviourists do not pay sufficient attention to the role played by the child in the language acquisition process.

3.1.2 Innatism

Chomsky (1976) claims that the human being is already born with a genetic capacity to acquire language. In other words, the human brain is already innately predisposed to perceive language around us. He asserts that children are naturally able to discover and understand the language structure that surrounds them by matching it to the innate notions of grammar they already have. In short, the surrounding environment activates the innate device responsible for acquisition, and the child develops the language in the same way as other biological functions.

Universal Grammar (UG henceforth) is the name given to this innate ability humans have of understanding, producing and developing grammatical rules, which is common to all languages, since every language presents similarities in terms of structure. For Chomsky the UG is a biological language acquisition device that the human beings are born with. As they grow, they are exposed to the language, facing its functions and then constructing their ideas of grammar.

Children learn to speak quickly because they are born with such language acquisition innate device. According to Chomsky, the child is exposed to fragments of speech, full of incomplete utterances. However, due to this innate device, s/he is able to internalize the grammar rules of the

given language in a short period of time, since it enables the linguistic knowledge previously inherited.

In order to support his idea, Chomsky (1976 apud BONA, 2013, p. 235) affirms that “Language is not learnt. It grows in the mind. It is, thus, wrong to think that language is taught and misleading to think of it as being learnt.”

3.1.3 Interactionism

According to this approach, the linguistic environment that the child is inserted in and the amount of interaction in such environment plays a crucial role in the development of language. Researchers understand that social development and language development are connected, and do not exist independently.

Many interactionists researchers have studied the speech directed to children, which is used in order to easen the child’s understanding and comprehension of what is being said, since it counts on some modifications when compared to the natural speech. This very specific speech was named “Caretaker speech”, since it concerns the different kinds of speech that usually people (i.e. mothers and other caregivers) usually use when talking to toddlers. Lightbown and Spada (1998, p. 14) describe it as “[...] a slower rate of speech, higher pitch, more varied intonation, shorter, simpler sentence patterns, frequent repetition and paraphrase”.

Caretakers facilitate children’s language development by making such modifications, so children widen their range of vocabulary and increase their abilities to use language appropriately in social situations, in order to communicate. So it can be said that children acquire and build language while interacting with their social environment and people around them.

Lev Vygotsky was a Russian psychologist who developed a sociocultural view to support the Interactionist Approach, and became one of the greatest names among all. His theory also proposes that the development of language comes from the early interaction between infants and caregivers. Sawyer and Stetsenko (2014) assert that from the Vygotskian perspective, a child develops psychologically through engaging in practical, social activity with others, beginning with the simplest forms of interaction between adult and child. That is to say that the language acquisition process starts when the child understands that there is an intention, a result to be

achieved, when the communication is established.

3.2 Critical Period Hypothesis

In 1959, the neurobiologists Penfield and Roberts were the first researchers to assume that language acquisition was associated to age. They believed that people acquire language easier during their early childhood, rather than during their youth or adulthood. These authors argued that “[...] for the purposes of learning languages, the human brain becomes progressively stiff and rigid after the age of nine”. (PENFIELD; ROBERTS, 1959, p. 236 apud TOKUDOME, 2010, p. 19). In other words, the brain goes through developmental changes within time.

Years later, in 1967, Eric Lenneberg brought deeper studies to this idea and proposed the Critical Period Hypothesis. By investigating language recovery among aphasic patients, his studies showed that if aphasia occurred before puberty, speech was likely recovered. Otherwise, if it occurred in adulthood, the chances of full recovery were very small.

According to what Lenneberg (1967) proposes for the Critical Period Hypothesis, the ability to acquire language is biologically linked to age. Until puberty, there is an ideal time span to acquire language, and after this time, mastering a language becomes more difficult, specially when it concerns pronunciation. In the book entitled *Biological Foundations of Language*, the author affirms that after puberty it becomes harder to naturally acquire a language due to the complete development of the brain and the consequent loss of cerebral flexibility. He says:

Language cannot begin to develop until a certain level of physical maturation and growth has been attained. Between the ages of two and three years language emerges by an interaction of maturation and self programmed learning. [...] After puberty, the ability for self organization and adjustment to the physiological demands of verbal behaviour quickly declines. The brain behaves as if it had become set in its ways and primary, basic skills not acquired by that time usually remain deficient for life. (LENNEBERG, 1967, p. 158).

Lenneberg (1967) also states that some abilities might be better acquired after the late teens rather than during childhood, but when it comes to language acquisition, the opposite happens, since the incidence of “language-learning-blocks” tend to increase during puberty. Besides, the brain having already gone through the process of lateralization, which Celce-Murcia, Brinton and Goodwin (2014) described as the process that assigns certain functions to different hemispheres of

the brain. These same authors still reaffirm that “It comes along with the loss of brain plasticity, which renders an individual incapable of achieving nativelike pronunciation in a second language at anytime after puberty” (CELCE-MURCIA; BRINTON; GOODWIN, 2014, p. 16).

As mentioned before (see subsection 3.1.3), interaction is one of the key elements for acquiring a language, explaining why most children acquire their mother tongue when exposed to it in their early years. Due to this interaction between children and adults, language is developed, internalized and gradatively built.

As evidence to support the existence of a critical period, some researchers¹ cite the examples of children who were not exposed to any kind of social or linguistic interaction (also called feral children). Such cases are great evidence of the critical period hypothesis, since the older ones were not successful in acquiring and developing their linguistic skills. But it is also important to remember that although there is a pattern, these are very extreme and isolated cases.

Probably the most famous case of feral child was the girl Genie. Genie was isolated from social interaction when she was fourteen months old, and was locked in a basement by herself. She was completely isolated and neglected until she was discovered in 1970 when she was already thirteen years old. According to Lightbown and Spada (1998, p. 12), “Genie was unsocialized, primitive and undeveloped physically, emotionally and intellectually. Needless to say, Genie had no language”. Once she was discovered, Genie was taken care of and educated in the most natural surroundings as possible with the participation of many teachers, doctors and therapists. She was able to live with a new caring foster family and to attend special schools. However, even though she was inserted in a natural environment for language acquisition for years, and always accompanied and supervised by a group of scientists, she did not manage to develop natural first language. She acquired a good range of vocabulary, however, she was not able to produce structured sentences according to grammatical rules, which made her verbal utterances incomprehensible.

In contrast, Rosa (2010, apud PIETTA, 2016, p. 9) mentions the case of the girl Isabelle, who was socially and linguistically isolated since birth with her deaf mother. She was found at the age of 6, and was not able to speak. Within a year, Isabelle was able to acquire language, and managed to speak like a 7-year-old child. Differently from Genie, Isabelle succeeded in acquiring

¹ See CURTISS, S. **Genie: a psychological study of a modern-day “wild child.”** New York: Academic Press, 1977.

LENNEBERG, E. **Biological foundations of language.** New York: John Wiley, 1967

language, which can be explained by the fact that she was exposed to language still during what is called as the critical period.

Once again, and as reassured by Lightbown and Spada (1998), it is difficult to support the Critical Period Hypothesis with examples of feral children, even if they seem to prove the existence of it, because of the circumstances the children were found, and what had happened in their early years. The social isolation and abuse may have psychological consequences, contributing to their inability to acquire first language.

3.3 Second Language Acquisition

Theories developed for First Language Acquisition and already mentioned on topic 3.1 above, are somehow applied to Second Language Acquisition as well. According to Klein (2014, p. 51), such correlation happens because researchers have used the way children acquire their first languages “as an ideal model, one that may inform us about how a second language might be taught.”

For Behaviourists, for instance, acquiring a second language consisted of imitation, repetition and reinforcement of grammatical structures. “Errors were to be corrected immediately to avoid forming bad habits that would be difficult to overcome later.” (Klein, 2014. p. 52).

Following the innatist approach, in his book *Principles and Practice in Second Language Acquisition*, Stephen Krashen (1982) suggests five hypotheses about second language acquisition (SLA henceforth). These hypotheses will be revised for guiding the discussion and understanding. The first one and perhaps the most fundamental is the distinction between acquisition and learning, that is, there is a difference in the ways of developing competence in a second language.

In *The Longman Dictionary of Language Teaching and Applied Linguistics*, competence is defined as:

The implicit system of rules that constitutes a person’s knowledge of a language. This includes a person’s ability to create and understand sentences, including sentences they have never heard before, knowledge of what are and what are not sentences of a particular language, and the ability to recognize ambiguous and deviant sentences.

In this sense, it is important to make the distinction between language acquisition and language learning. According to Krashen (1982), acquisition is a more subconscious and intuitive

process, which requires meaningful and natural communication in the target language. Speakers are concerned with the communication itself and its understanding, and the rules related to the language come with its usage. The author compares this process with the one that children undergo when they learn to speak, in other words, when they acquire their first language. Krashen (1982, p. 10) explains:

The first way is language acquisition, a process similar, if not identical, to the way children develop ability in their first language. Language acquisition is a subconscious process; language acquirers are not usually aware of the fact that they are acquiring language, but are only aware of the fact that they are using the language for communication. The result of language acquisition, acquired competence, is also subconscious. We are generally not consciously aware of the rules of the languages we have acquired. Instead, we have a "feel" for correctness. Grammatical sentences "sound" right, or "feel" right, and errors feel wrong, even if we do not consciously know what rule was violated.

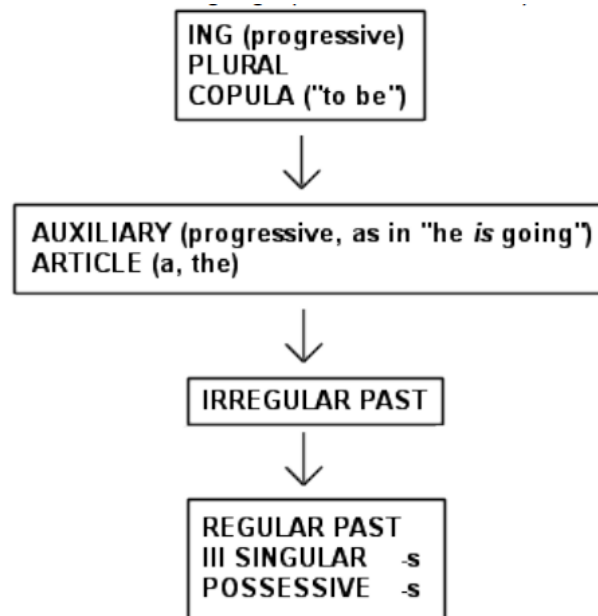
On the other hand, the learning process is a more formal and conscious one. It enables the learner to know and understand more about the language, its grammar and lexis. Since the focus is the language and its analysis, error corrections may occur in order to help the learner to induce and understand the right forms. The presentation of explicit rules is also part of the learning process, and communication is not the main focus. This process is the one usually found in schools, where students have to memorize rules and vocabulary, making it many times not meaningful at all.

The Acquisition-Learning Hypothesis proposed by Krashen (1982) is perhaps the most fundamental and widely discussed theory among linguists and language professionals. However, there are still many criticisms to this theory, since he still affirms that not all language learned necessarily becomes acquired language through conscious practice. In other words, what is consciously learned does not obligatory becomes acquired.

Apart from this, Krashen (1982) also suggests four other hypotheses regarding the language acquisition and learning processes.

In the Natural Order Hypothesis is stated that there is a natural order for grammatical structures to be acquired, and they proceed in a predicted progression, whether it is in first or second language. In other words, language rules are acquired in a predictable order. Some rules might be acquired later, even if these are easier to be perceived while learning. For English, for example, Krashen (1982) presents an average order of acquisition of grammatical morphemes (Figure 1).

Figure 1: The order of acquisition of Grammatical Morphemes



Fonte: Krashen (1982, p. 13).

Lightbown and Spada (1998) go further adding that although the learner's first language has a great influence on the acquisition order, there are very strong patterns of similarity in this process which cannot be explained by the influence of the mother tongue.

The second hypothesis, named the Input Hypothesis, suggests that language is acquired when the message is completely or partially understood. The input provided should be clear and comprehensible. This is discussed by Krashen (1982, p. 21) in these words:

We acquire, in other words, only when we understand language that contains structure that is "a little beyond" where we are now. How is this possible? How can we understand language that contains structures that we have not yet acquired? The answer to this apparent paradox is that we use more than our linguistic competence to help us understand. We also use context, our knowledge of the world, our extra-linguistic information to help us understand language directed at us.

In short, acquiring a language is a process, where language is gradatively built by understanding what is being exposed and using devices that go beyond our linguistic competence. Krashen (1982) uses the term "comprehensible input" to refer to the target language provided for the learner's input, that s/he would not be able to produce, since it goes further than their current level, but s/he can still understand by using the linguistic competence and background/context

understanding. Once the meaning is successfully conveyed, it can be said that there was improvement and progress on acquisition, since the learner focused on meaning instead of form. Accuracy is developed over time.

It can be said that there is a great connection between the Interactionist Approach (see topic 3.1.3) and the Input Hypothesis, and Krashen (1982) establishes this correlation when he affirms that the “Caretaker Speech” would be a piece of evidence to support his theory.

The most interesting and perhaps the most important characteristic of caretaker speech for us is that it is not a deliberate attempt to teach language. Rather, as Clark and Clark (1977) point out, caretaker speech is modified in order to aid comprehension. Caretakers talk "simpler" in an effort to make themselves understood by the child. [...] In other words, caretaker speech is not precisely adjusted to the level of each child, but tends to get more complex as the child progresses. (KRASHEN, 1982, p. 22).

As regards to second language acquisition, the same pattern can be established, since the author reminds that teacher-talk is turned to communication, in order to help the student to understand what is being said.

According to the Monitor Hypothesis, acquisition and learning are used in very specific ways. While the acquisition process is responsible for the intuitive fluency, the conscious learning process works as a monitor or editor, polishing and making changes to the produced utterances (output). It edits and corrects the consciously perceived errors, but with a minor role in this communicative process. Moreover, Krashen (1982) also affirms that second language performers need three conditions in order to use the rules consciously and effectively: sufficient time to think, focus on form and correctness and knowing the rules.

Finally, the author suggests the Affective Filter Hypothesis, and states that the learner’s emotional state affects how the input is received and perceived, and that can boost or block the language learning process. The learner should be in a motivational context, with low anxiety and stress levels, this may help learners interact with confidence. If s/he does not have this affection and motivation, the input acquisition might be spoiled, since the lack of these variables can raise the affective filter and form a mental block. Krashen (1985, p. 81-82) states that:

When it is “up” [the filter], the acquirer may understand what he hears and reads, but the input will not reach the Language Acquisition Device (LAD). [...] The filter is “down” when the acquirer is not concerned with the possibility of failure in language acquisition and when he considers himself to be a potential member of the group speaking the target language.

Lightbown and Spada (1998) reinforce that this hypothesis is very useful in the classroom practice, since teachers can understand why some learners may be more successful while others are not, depending on how motivated they are. Besides, by taking this hypothesis into consideration and improving the students' motivation and self confidence, acquiring language becomes easier and more meaningful.

3.4 Critical Period Hypothesis in SLA

Although many researchers have come to a consensus on the effects of a critical period in the development and acquisition of a first language, the age effect on second language acquisition is still a very controversial topic among linguists, neurobiologists, teachers, etc.

There are still some researchers who completely refuse the existence of a Critical Period Hypothesis for second language acquisition. In his article, Tokudome (2010) mentions some authors and researches carried out in order to prove the non-existence of such correlation. Most studies were performed with immigrants from different ages, who had to acquire a second language once they had arrived in the new country². The studies mentioned claim that second language acquisition is not affected by a critical period at all, since they affirm that there is no decline in L2 proficiency at the end of such period. Tokudome (2010) asserts that these studies show that the CPH is not necessarily the case when it comes to difficulties found by late learners when acquiring a second language.

Jeremy Harmer (2015) also presents doubts about this theory, but he affirms that if there is a critical period for SLA, it would apply to pronunciation only, since younger learners can achieve native-like accent easier than late learners. However, adults might do better than children in other aspects, as morphology and syntax. In his book, *The Practice of English Language Teaching*, Harmer (2015, p. 82) affirms: "They may have greater difficulty in approximating native speaker

² See: CHISWICK, B. R.; MILLER, P; W. A test of the critical period hypothesis for language learning. **Journal of Multilingual and Multicultural Development**, 29, 16-29. 2008.
HAKUTA, K.; BIALYSTOK, E.; WILEY, E. Critical Evidence: A test of the critical-period hypothesis for second language acquisition. **Psychological Science**, 14, 31-38. 2003.

pronunciation than children do, but sometimes this is a deliberate (or even subconscious) retention of their cultural and linguistic identity”.

Gass and Selinker (2008) also agree with the general statement proposed by the second language acquisition literature which affirms that it is highly improbable for older learners to acquire a native accent in a second language, but this general agreement does not exist in other domains of language, such as morphosyntax.

Following the same path, Brown (2000) attributes what is commonly called “foreign accent” to human anatomy. He asserts that humans use several hundred muscles (throat, larynx, mouth, lips, tongue and others) in order to produce speech. “A tremendous degree of muscular control is required to achieve the fluency of a native speaker of a language” (BROWN, 2000, p. 58). These speech muscles gradually develop, and control some complex and particular sounds of language. In other words, the command of second language phonology also involves the neuromuscular sphere, which may play an even more crucial role in this field. Every language has its particular phonemes that may not exist in others, and they might be hard for late learners to articulate due to such psychomotor and articulatory factors, as they would have to be integrated into already existing networks. A common example would be the difficulty that Brazilian learners find to produce the phonemes /θ/ and /ð/, that are very common in English.

Besides, Scott (1989 apud CELCE-MURCIA; BRINTON; GOODWIN, 2014), still affirm that other factors apart from the brain’s abilities also play a very important role on late learners’ acquisition. He demonstrates that the auditory perceptions diminishes with age, especially for those over 60 - which would make even harder for them to listen and try to reproduce the target language native-like speech.

Scovel (1988 apud BROWN, 2000) assures that in terms of statistical probability, the chances of a person acquiring a second language after puberty, and achieving an authentic native accent are very small. Pietta (2016) affirms that many researchers have used the CPH to prove the apparent inability late learners have of acquiring a second language. Sustained by other authors³, Pietta (2016) confirms that if an adult is exposed to a second language, s/he will probably show more difficulties to learn it, since the gradual loss of brain plasticity.

³ See: ROSA, M. C. **Introdução a (bio)linguística: Linguagem e mente**. São Paulo: Contexto, 2010. FLYNN, Suzanne; MANUEL, Sharon. Age-dependent effects in language acquisition: An evaluation of critical period hypotheses. **Point counterpoint: Universal Grammar in the second language**, p. 117-145, 1991.

Long (1990 apud MUÑOZ, 2013) suggested that not all areas of language may be affected at the same time. Phonology, for example, would have its closure by the age of six, while morphology and syntax could only be affected by the age of fifteen. That would explain why Phonology is the linguistic aspect where greater advantages can be observed when concerns to exposure to second language during early childhood, even more than morphology and syntax.

Kam (2014) also observes that the age of acquisition effects can be seen in morphology and syntax, even though such effects are most apparent in how the speaker sounds. According to her:

People who learned an L2 later in life often have accents in their speech; even after years of regular daily language use, they produce certain sounds differently than native speakers of the same language. They might also stress words differently or produce sentences with a different prosody or rhythm, and all of these things contribute to the perceived accent in their speech. The degree of accent is typically lower in those individuals who learned the language younger, sometimes to the point of their sounding quite native-like. (KAM, 2014, p. 10).

Moreover, she still adds another aspect that the age of acquisition may have influence: the social and cultural aspects of language, such as pragmatics.

When it comes to morphology, the early acquisition of a second language leads to better understanding of the language and grammatical structures. Johnson and Newport (1989, apud KAM, 2014) are responsible for one of the most influential studies when it comes to the investigation of the second language acquisition in the morphosyntactic area. The participants of their study were speakers who learned English as a second language between the ages of 3 and 39. The subjects were interviewed and asked to judge sentences as grammatical and ungrammatical. As a result, it was stated that the difference in language acquisition are not limited to production only. The subjects who began acquiring the second language while they were younger, obtained a higher score on the test than the ones who began later. Kam (2014, p. 10) reproduces these results by stating: “Individuals who began learning an L2 later in life are usually quite able to judge grammatical sentences as grammatical; where they tend to fail is in judging ungrammatical sentences as ungrammatical.”

Furthermore, some researchers say that other nonbiological factors may be taken into consideration when learning a second language, especially the degree of motivation, social and learning conditions. Flege (1987 apud BONA, 2013) states that adults are usually more inhibited and afraid of making mistakes than children, and that would make them step back when it concerns

to pronunciation practice. Kam (2014) still adds that adults have more developed short term memory, which makes learning less effective. Kam (2014) adds some other external factors, such as the languages involved, the situation in which the second language is learnt, if there is formal instruction or not, and even the integration and identification to the culture associated with the second language.

Birdsong (2006 apud BONA, 2013) still adds other factors, such as the environment where the language is acquired, learning styles and strategies, memory, amount of time exposed to the target language, and others. But age is still said to be the most influential one.

4 FINAL REMARKS

The main goal of this monograph was to revise what the main literature and recent researchers have said about the existence of a critical period when it comes to second language acquisition. First language acquisition theories and a topic introducing the Critical Period Hypothesis for First Language Acquisition were also shown and reminded as an introduction, in order to lead the reader and familiarize s/he with the main subject.

In order to pursue the objective proposed in this study, now it is time to revisit the research questions already mentioned above, so as to clarify whether they were answered or not:

- (i) What does the literature say about the effects of age on second language acquisition?
- (ii) Which arguments do the authors hold in order to sustain the hypothesis that an adult would have more difficulties to acquire and learn a second language when compared to a child?
- (iii) And what are the arguments held against such hypothesis?

By reviewing the main literature and recent researches, this data was collected and introduced in the topics 3.3 and 3.4 above, after the brief and introductory exposition of First Language Acquisition approaches and Critical Period Hypothesis.

A large number of scientists have studied the age of acquisition effects when it comes to a second language, by showing different perspectives and evidences.

Although many researchers have studied the effect of age in second language acquisition, it is still a very controversial topic among them. The majority of linguists and other professionals have already agreed on the existence of a Critical Period Hypothesis for second language acquisition, however, a few others state the opposite, and show their evidence to support their ideas.

It was noticed that most authors agree on the existence of a critical period when it comes to phonological acquisition, that is, the later the speaker is exposed to the second language, the harder it is to achieve native like pronunciation, making the “foreign accent” stronger.

Besides, many authors also believe that nonbiological factors, such as motivation, learning and social conditions and integration with the new language should also be taken into consideration.

Despite the fact that there are several other considerations regarding the existence of a critical period for second language acquisition, such as biological and neurological considerations

as well as anthropological evidence⁴, they were not mentioned in this paper since they were not the main focus for the moment. However, they still arouse curiosity for future and deeper research.

It is common to hear people saying that children learn a second language faster because their brains work as “sponges”. This present research was carried in order to scientifically confirm and better understand this fact, which is very commonly observed in the classrooms, specially in language schools that deal with students of different ages. Still, this paper might also contribute for the language teaching experience, since it brings awareness on the way that late learners (adolescentes and adults) will aquire a second language, and the importance of the teacher’s role to raise motivation among them.

Further research might be developed from this paper, by observing how this theory applies in the classroom context, with groups of students of different ages.

⁴ See: HARMER, Jeremy. **The Practice of English Language Teaching**. 4. ed. Edinburgh: Pearson Longman, 2015.

REFERENCES

BAKER, Colin. **Foundations of Bilingual Education and Bilingualism**. 3. ed. Multilingual Matters LTD. Clevedon, 2001.

BONA, C. A **Aquisição de uma língua e os argumentos acerca da existência de um período crítico**. Santa Cruz do Sul, v. 38, n. 65, p. 233-246, jul. dez. 2013.

BROWN, H. Douglas. **Principles of Language Learning and Teaching**. 4 ed. White Plains, NY: Longman, 2000.

CELCE-MURCIA, Marianne; BRINTON, Donna M.; GOODWIN, Janet M. **Teaching Pronunciation: A course book and reference guide**. 2. ed. New York: Cambridge, 2014.

CEZARIO, Maria Maura; MARTELOTTA, Mário Eduardo. Aquisição da Linguagem. *In*: MARTELOTTA, M. E. (org.). **Manual de linguística**. 2. ed. 2012, p. 207-216

GASS, Susan M; SELINKER, Larry. **Second language acquisition: An introductory course**. 3. ed. Routledge: New York, 2008.

HARMER, Jeremy. **The Practice of English Language Teaching**. 4. ed. Edinburgh: Pearson Longman, 2015.

KAM, Carla L. Hudson. Age of Acquisition effects. *In*: BROOKS, Patricia J; KEMPE, Vera (Ed.). **Encyclopedia of Language Development**. Thousand Oaks: Sage, 2014. p. 9-12.

KLEIN, Wolfgang. Second Language Acquisition. **International Encyclopedia of the Social & Behavioral Sciences**. 2014. p. 38-71.

KRASHEN, Stephen D. **The input hypothesis: Issues and implications**. Addison-Wesley Longman Ltd, 1985.

KRASHEN, Stephen. **Principles and Practice in Second Language Acquisition**. New York, Pergamon Press. 1982.

KRASHEN, Stephen. **Second Language Acquisition and Second Language Learning**. Oxford: Pergamon Press, 1981.

LENNEBERG, E. H. **Biological foundations of language**. New York: Wiley. 1967.

LIGHTBOWN, Patsy M.; SPADA, Nina. **How Languages are Learned**. 8. ed. Oxford: Oxford University Press, 1998.

MUÑOZ, Carmen. Age effects in SLA. *In*: ROBINSON, Peter. (Ed.) **The Routledge Encyclopedia of Second Language Acquisition**. New York: Routledge, 2013. p. 12-15.

PARODI, Teresa. Language Acquisition. *In*: MALMKJÆR, Kirsten (Ed.). **The Routledge Linguistics Encyclopedia**. 3. ed. New York: Routledge, 2010. p. 287-296.

PIETTA, Ana Claudia. **O período crítico de aquisição da linguagem e as influências na aquisição de L2: questões teóricas**. 2016. 22 f. Trabalho de Conclusão de Curso (Graduação em Letras). Universidade Federal da Fronteira Sul, Chapecó. 2016. Disponível em: <https://rd.uffs.edu.br/handle/prefix/326>. Acesso em: 1 ago. 2019.

RICHARDS, Jack C.; SCHMIDT, Richard. **The Longman Dictionary of Language Teaching and Applied Linguistics**. 4. ed. Edinburgh: Pearson Longman, 2010.

SAWYER, Jeremy E.; STETSENKO, Anna. Vygotsky, Lev. *In*: BROOKS, Patricia J; KEMPE, Vera (Ed.). **Encyclopedia of Language Development**. Thousand Oaks: Sage, 2014. p. 663-666.

SHEHADEH, Ali. Monitor Model. *In*: ROBINSON, Peter (Ed.). **The Routledge Encyclopedia of Second Language Acquisition**. New York: Routledge, 2013. p. 437-438.

SKINNER, Burrhus Frederic. **Verbal behavior**. New York: Appleton-Century-Crofts, 1957.

TOKUDOME, Makoto. Unlikely Bedfellows: The Critical Period Hypothesis and its effects on Second Language Acquisition. **Texas Papers in Foreign Language Education**, 2010. p. 18-27.